



LIGHTOX[®]

Light Activated Technologies

Series A – Financing

Disclaimer

This presentation uses forward-looking statements and assumptions that involve risks and uncertainties, including, but not exclusively, the risks associated with the effect of changing economic conditions, changes in the markets, variations in the companies' business plan, market acceptance risk, technical development risks, and other business risk factors.

In light of these and other risks, and uncertainties, there can be no assurance that the events predicted will in fact transpire. All care and diligence has been

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Initial LightOx drug offering - mouth cancers

- ➔ LightOx treatment for **pre-cancers** (oral dysplasias) to halt progression pre-disease into cancers
- ➔ Reduce or **eliminate the need** for surgery, radio or chemotherapy for early-stage tumours

LIGHTOX[®]



The Problem: An **Unmet Clinical Need** – STOP Oral Cancer BEFORE life-altering surgery is needed

1 in 6

of all cancers are head and neck

2 in 5

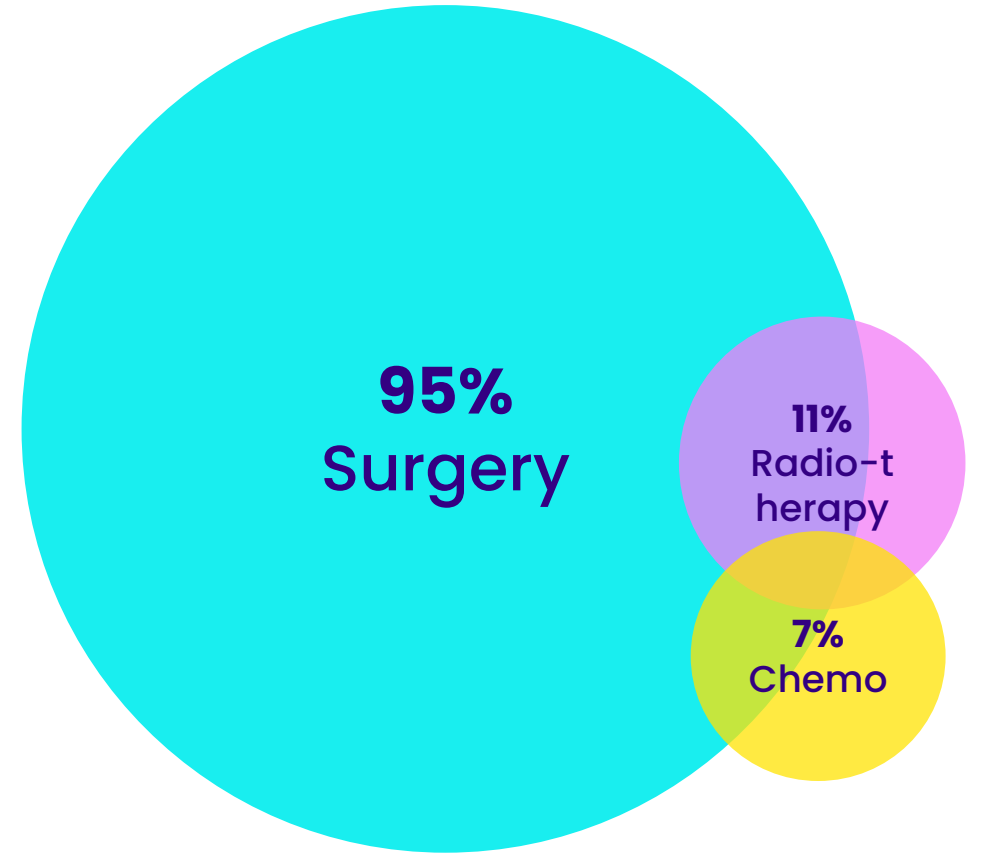
people will die within 5 years

52%

of survivors will never return to work

95%

of patients will have life-altering surgery



Clinical need – Treat Oral pre-cancers (dysplasias)

3%

Prevalence of oral leukoplakia in the global population

(Mello et al, 2018)

12%

Malignant transformation rate

(Mehanna et al, 2009)

40x

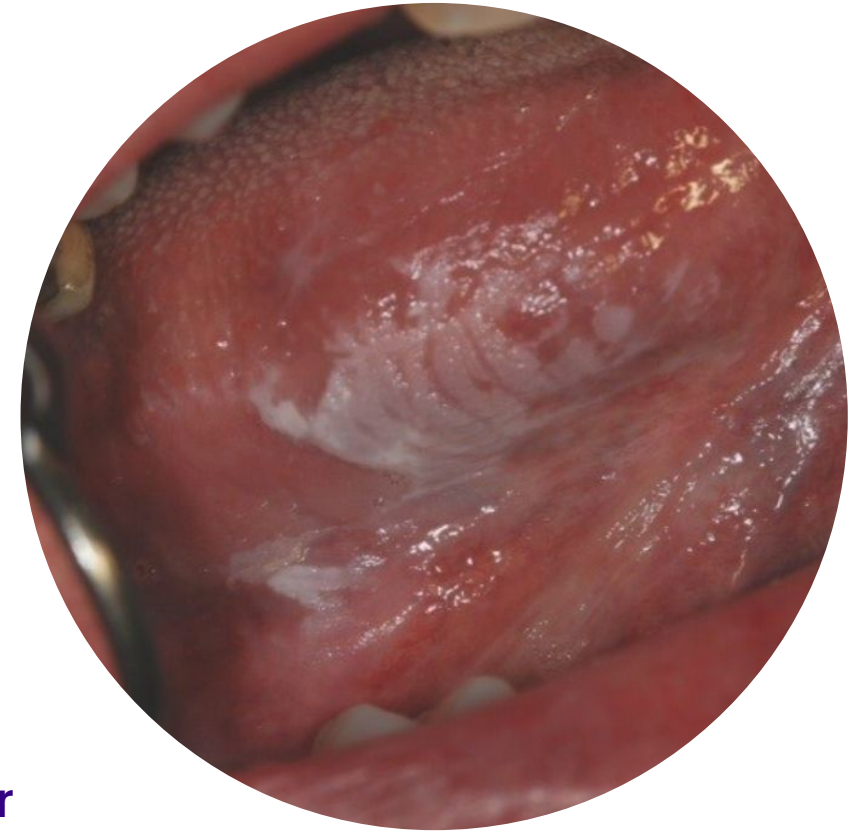
Greater risk of oral cancer

(Chaturvedi AK et al, 2020)

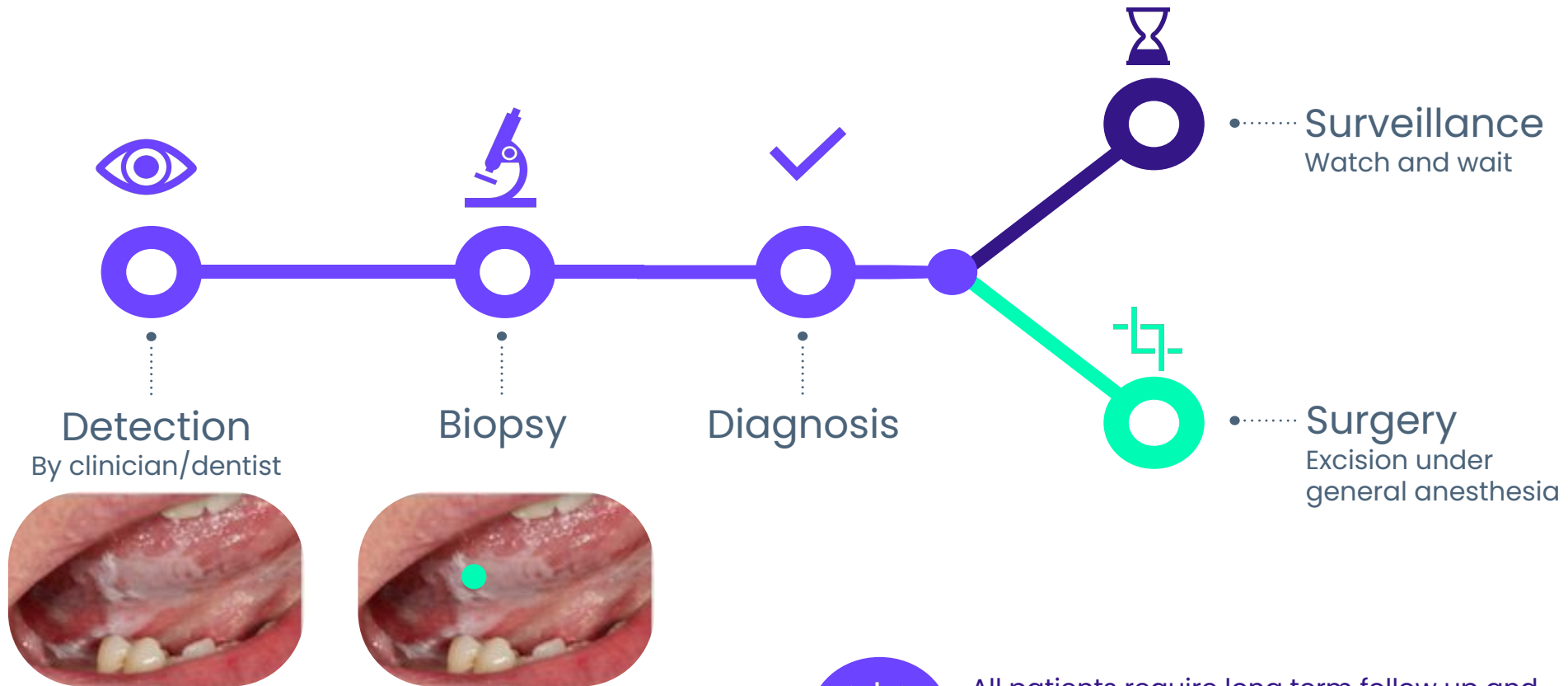
171%

Increased incidence of oral cancer

(The State of Mouth Cancer UK Report 2019/20).

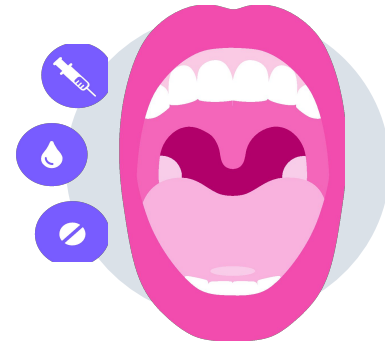
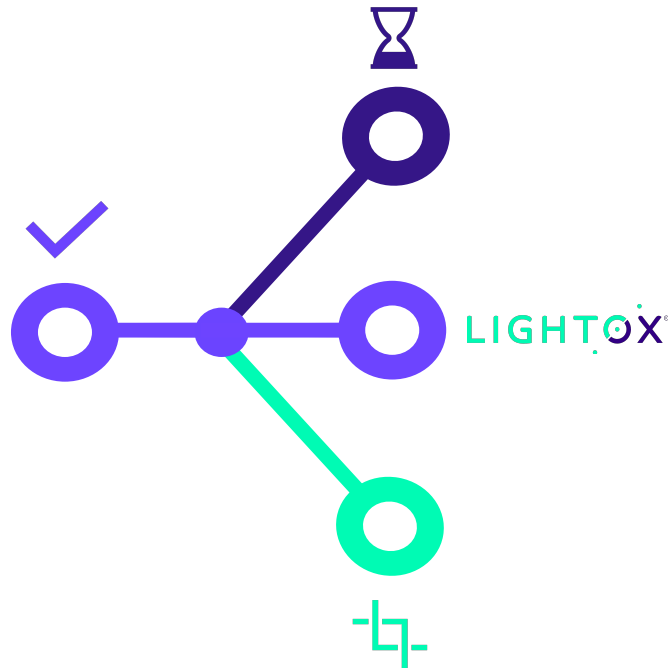


Current clinical approach



All patients require long term follow up and 80% will develop new lesions, recurrences or oral cancer over a 5 year period

LightOx ILLUMINATE: Using Light – activated drugs to remove pre-cancerous/cancerous cells



1 Apply
Small compound size suitable for topical formulation
Cell penetration using small molecule drug



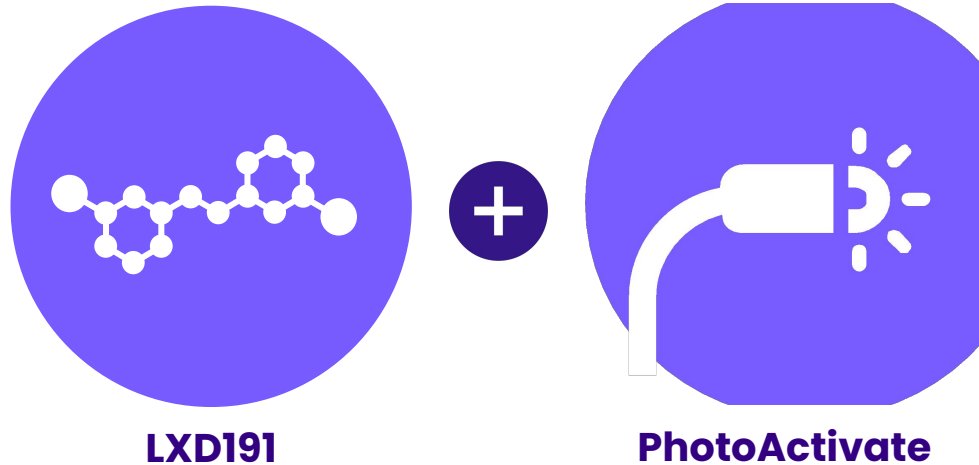
2 Target
Dysplastic/cancerous area is identified by the clinician
Minimal collateral damage



3 Treat
Light treatment of targeted area activates cell killing
Natural mechanism: ROS production leads to cell apoptosis



LightOx ILLUMINATE: Reduces or avoids need for extensive surgery



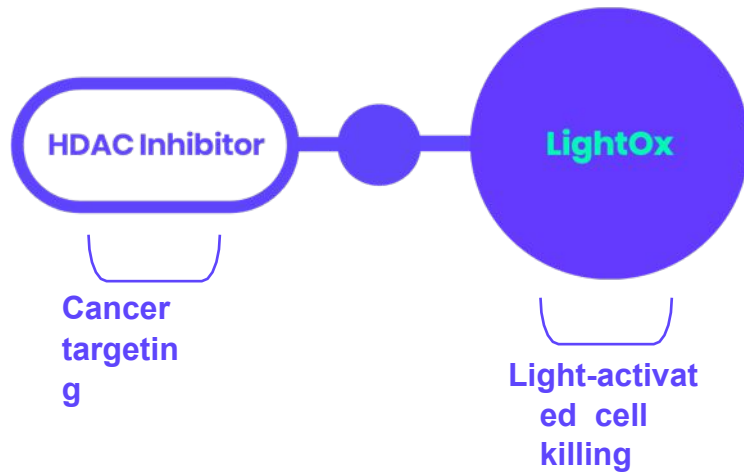
Drug Advantages:

- Dual-action small molecule, topical
- Multiple lesion treatment; suitable for repeat treatment

Device Advantages:

- Spatiotemporal, light & drug dosage control
- Low cost, non-proprietary, easy-to-use device

How it works:

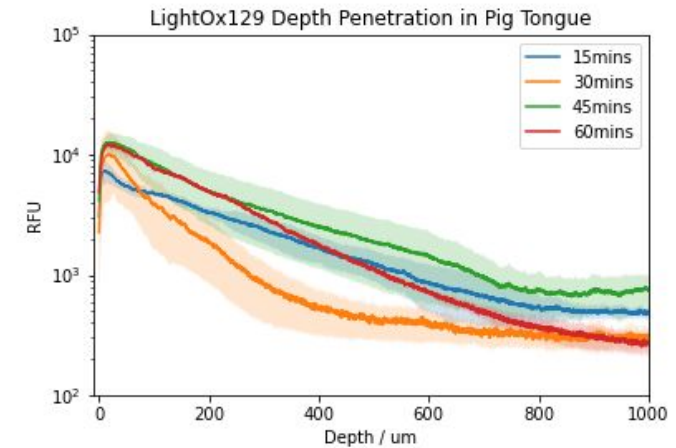
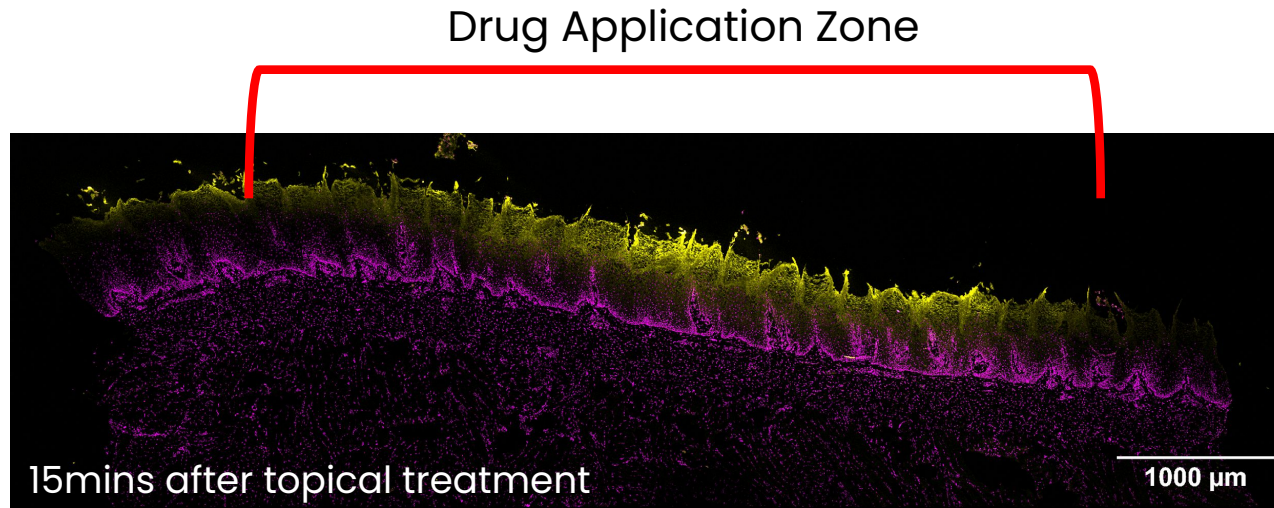


LXDI91 is a dual-action therapeutic

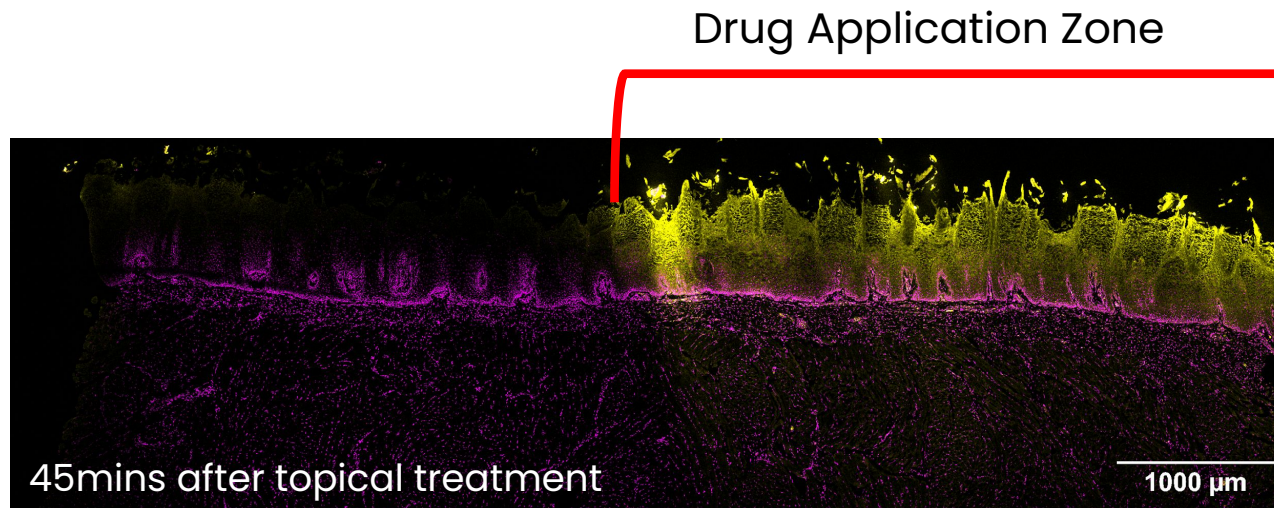
- HDACi element drives drug accumulation in pre-cancerous lesions and early-stage cancers
- Topical treatment gives easy application method and control to clinicians
- Unlike chemotherapy treatment does not compromise the immune system
- Toxic only upon illumination at purple/blue wavelengths

ILLUMINATE: Topical Application – Controlled light exposure

LXD191 applied topically to the tongue

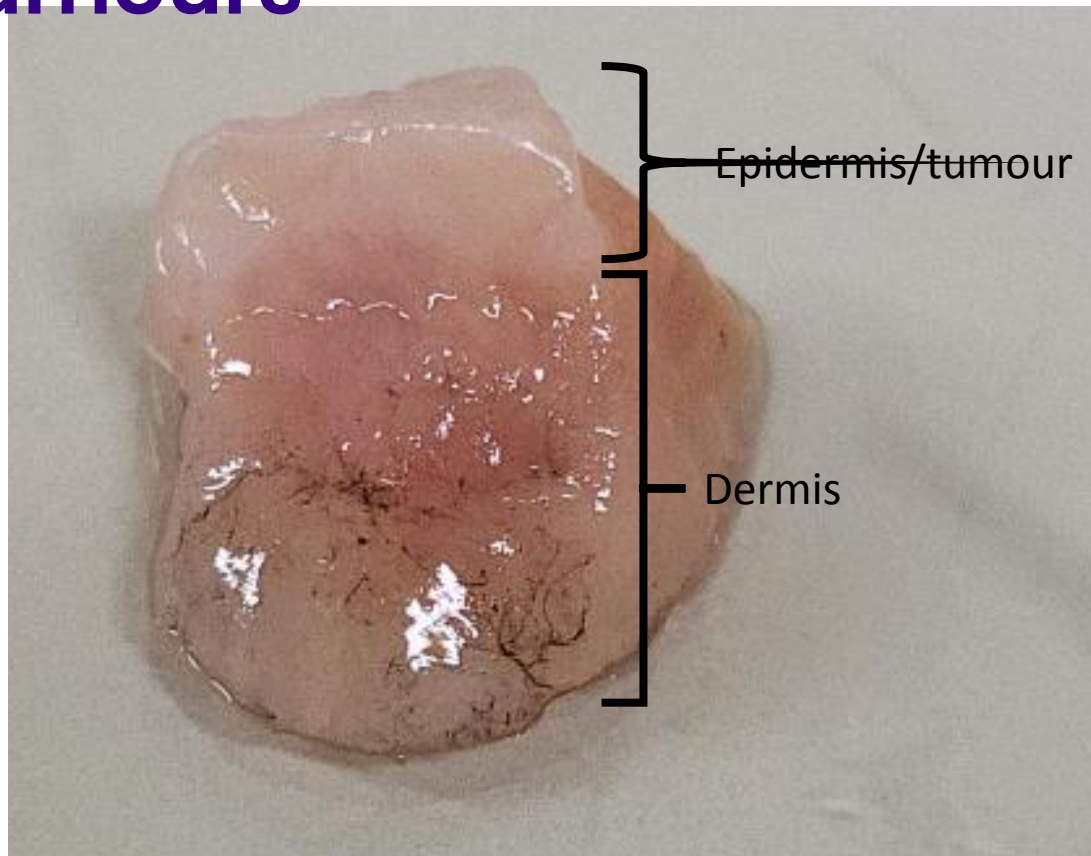


Tissue sectioned and imaged to reveal the drug penetration

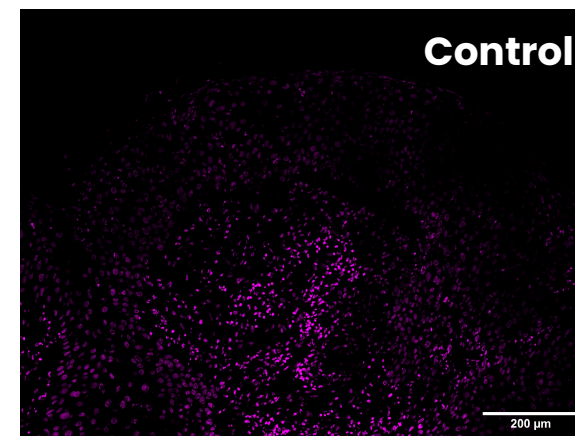
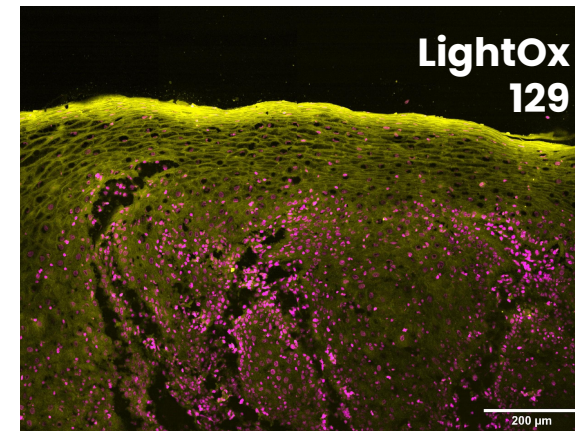
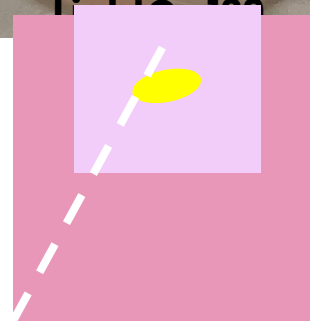
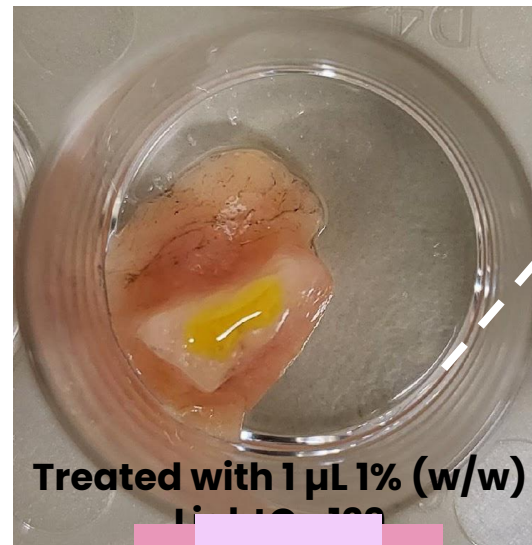


Drug in formulation penetrates through the entire target tissue – tongue epithelium

ILLUMINATE: Formulated LXD191 penetrates human tumours

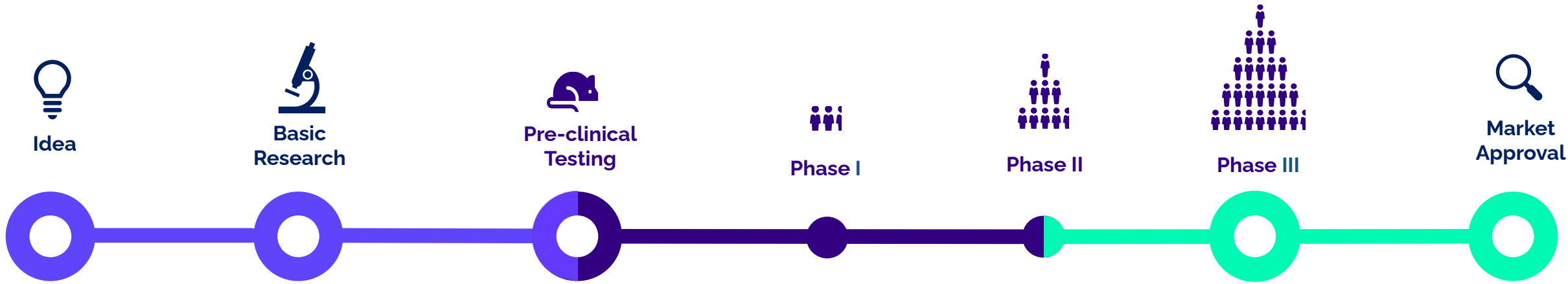


LXD 191 tumour surface only
Tissues Sectioned and imaged



LXD191 Penetration profile
Yellow – LXD191
Pink – Cell nuclear counterstain

Return on Investment, Exit & Timelines – Oral Cancer



Seed investment to date
>\$5m

Series A
>\$10m

Exit Opportunity A – Asset Sale
>\$180m

Exit Opportunity B – Geographical
Licensing > \$50m p/a

Required Funding for Phase III
>\$30-40m

Series A

With the Series A investment of \$10m LightOx will look to complete the drug CMC and First in Man as well as Phase 1&2 trials.

With this new patient data LightOx targets a sale of the asset in Oral Cancer treatments

A \$180m exit should be achievable looking at relative competitor valuation and investments in the market giving a 7x ROI on Series A valuation.






Alternative Exploitation Model:

Another means to achieve substantial ROI is by licensing the asset through geographical rights to pharmaceutical partners:

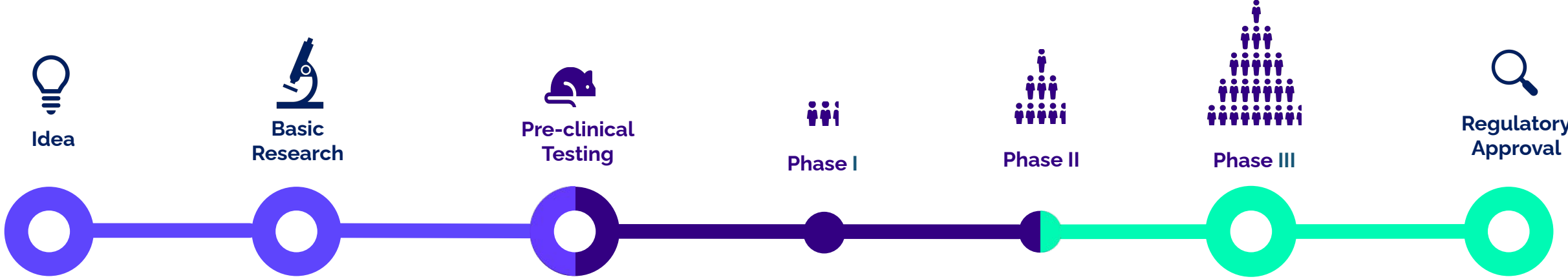
License fee and royalty dependent on region



Photo activated technologies in the field

					
Chemical entity	NCE	Phthalocyanine	Phthalocyanine	Pd-Bacterio-chlorophyll	5 ALA – Protoporphyrin IX
Primary clinical target	Mouth Cancer	Head and Neck	Ocular cancer	Urothelial cancers	Diagnostic
Clinical Phase	Pre-clinical (Phase 1/2a in 2023/4)	Approved in Japan 2020 US FDA trial recruiting	Phase 2a	Phase 1	On market
Ease of manufacture	Simple chemical synthesis	Antibody coupling and purification	Viral vector production and coupling	Grown and purified from bacteria	Simple synthesis
IP Position	Material protection and Full FTO	Licensed from NIH for clinical use	Licensed from NIH for clinical use	Unknown/ methods	Off patent
Other application areas	Full licensing opportunities to any field	Blood cancers in pipeline	limited	No	No
Patient treatment	Topical "out-Patient" like treatment	Systemic	Intravitreal injection	Systemic, photo-sensitization of whole patient	Systemic, photo-sensitization of whole patient

Roadmap to Market: LightOx Development Timeline



2016
LightOx
founded

2018-2021
Angel and Seed
Investment

2022 - 2023
UK Grant Support \$1.4M – secured

- Key Milestones:**
- **Completion** of preclinical animal testing
 - **Manufacture** of clinical grade drug
 - Pre-clinical **safety** studies
 - Advanced submission for **regulatory** approvals

2023-2025
\$10.0M Series A offering

- Key Activities:**
- PI/II **Clinical Trial**
 - **First in human** – 30-50 patients
 - Human **Drug Safety**
 - **IND filing** – UK, EU, FDA

Pharma partnership:
Clinical **commercial** development with
a Big-Pharma partner

Summary

**Pre-cancerous
treatment using
proprietary light
activatable drug**

**LXD191 – Topical drug that is activated
using light to treat oral cancers**

**Unmet clinical need to dramatically
improve patients lives**

**Series A – \$10m for clinical to Phase I/II
in 2023/4 and major valuation inflection point**

**Expansive platform technology in both clinical
and non-clinical areas to expand portfolio**



Thank you

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